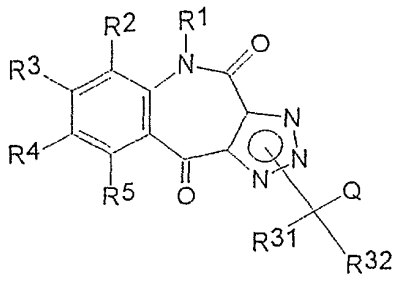
CLAIMS

1. A compound represented by formula (I) or a physiologically acceptable salt or solvate thereof:



(I)

wherein

R^1 represents a hydrogen atom, a hydroxyl group, C_{1-4} alkyl, or phenyl C_{1-4} alkyl;

R^2, R^3, R^4, and R^5, which may be the same or different, represent any one of the following (a) to (n):

(a) a hydrogen atom;

(b) a halogen atom;

(c) an optionally protected hydroxyl group;

(d) formyl;

(e) C_{1-12} alkyl which may be substituted by a halogen atom;

(f) C_{2-12} alkenyl which has one or more carbon-carbon double bonds and may be substituted by

(1) a halogen atom,

(2) cyano,

(3) $-COR^9$ wherein R^9 represents a hydrogen atom or C_{1-6} alkyl,

(4) $-COOR^{10}$ wherein R^{10} represents a hydrogen atom or C_{1-6} alkyl,

(5) $-CONR^{11}R^{12}$ wherein R^{11} and R^{12}, which may be the same or different, represent

(i) a hydrogen atom,

(ii) C_{1-6} alkyl which may be substituted by amino optionally substituted by C_{1-4} alkyl, phenyl optionally substituted by C_{1-4} alkyl which may be substituted by a saturated five- to seven-membered heterocyclic ring containing one or two nitrogen atoms (the nitrogen atoms may be substituted by C_{1-4} alkyl), or a saturated or unsaturated five- to seven-membered heterocyclic ring,

(iii) phenyl which may be substituted by carboxyl, or

(iv) a saturated or unsaturated five to seven-membered heterocyclic ring,

(6) a saturated or unsaturated five- to seven-membered heterocyclic ring which may be substituted by C_{1-4} alkyl or may form a bicyclic ring fused with another ring;

(g) C_{1-12} alkoxy which may be substituted by

(1) a halogen atom,

(2) a hydroxyl group,

(3) cyano,

(4) C_{3-7} cycloalkyl,

(5) phenyl,

(6) C_{1-4} alkoxy,

(7) phenoxy,

(8) amino which may be substituted by C_{1-4} alkyl,

(9) $-COR^{13}$ wherein R^{13} represents a hydrogen atom, C_{1-6} alkyl, phenyl optionally substituted by halogen or C_{1-4} alkoxy, or phenyl C_{1-4} alkyl,

(10) $-COOR^{14}$ wherein R^{14} represents a hydrogen atom or C_{1-6} alkyl,

(11) $-CONR^{15}R^{16}$ wherein R^{15} and R^{16}, which may be the same or different, represent a hydrogen atom or C_{1-6} alkyl which may be substituted by a saturated or unsaturated five- to seven-membered heterocyclic ring, or

(12) a saturated or unsaturated five- to seven-membered heterocyclic ring which may be substituted by C_{1-4} alkyl or phenyl C_{1-4} alkyl;

(h) $-C=N-OR^{16}$ wherein R^{16} represents a hydrogen atom, C_{1-6} alkyl, phenyl C_{1-4} alkyl, or phenyl;

(i) $-(CH_2)mOR^{17}$ wherein m is an integer of 0 to 4, and R^{17} represents a hydrogen atom, C_{1-6} alkyl, or phenyl C_{1-4} alkyl of which one or more hydrogen atoms on the benzene ring may be substituted by C_{1-4} alkyl;

(j) $-(CH_2)k-COR^{18}$ wherein k is an integer of 1 to 4, and R^{18} represents a hydrogen atom or C_{1-4} alkyl;

(k) $-(CH_2)j-COOR^{19}$ wherein j is an integer of 0 to 4, and R^{19} represents a hydrogen atom or C_{1-6} alkyl;

(l) $-(CH_2)p-NR^{20}R^{21}$ wherein p is an integer of 1 to 4, and R^{20} and R^{21}, which may be the same or different, represent

(1) a hydrogen atom,

(2) C_{1-6} alkyl which may be substituted by amino optionally substituted by C_{1-4} alkyl,

(3) phenyl C_{1-4} alkyl,

(4) $-COR^{22}$ wherein R^{22} represents a hydrogen atom or C_{1-4} alkyl which may be substituted by carboxyl, or

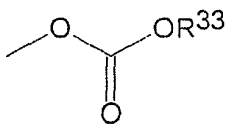
(5) $-SO_2R^{23}$ wherein R^{23} represents C_{1-4} alkyl or phenyl which may be substituted by a halogen atom;

(m) $-(CH_2)q-CONR^{24}R^{25}$ wherein q is an integer of 0 to 4, and R^{24} and R^{25}, which may be the same or different, represent a hydrogen atom, a saturated or unsaturated five- to seven-membered heterocyclic ring, or C_{1-6} alkyl which may be substituted by a saturated or unsaturated five- to seven-membered heterocyclic ring, or alternatively R^{24} and R^{25} may form a saturated or unsaturated five- to seven-membered heterocyclic ring together with a nitrogen atom to which they are attached (the heterocyclic ring may further contain at least one oxygen, nitrogen, or sulfur atom, may form a bicyclic ring fused with another ring, or may be substituted by C_{1-4} alkyl); and

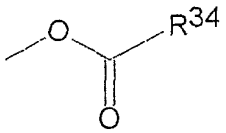
(n) $-NR^{26}R^{27}$ wherein R^{26} and R^{27}, which may be the same or different, represent a hydrogen atom or $-COR^{28}$ wherein R^{28} represents a hydrogen atom, C_{1-6} alkyl, or phenyl which may be substituted by C_{1-4} alkyl or C_{1-6} alkoxy optionally substituted by phenyl;

R^{31} and R^{32}, which may be the same or different, represent a hydrogen atom or C_{1-6} alkyl which may be substituted by a halogen atom; and

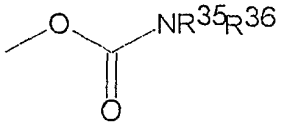
Q represents a group selected from the following groups (i) to (iv) or a halogen atom or C_{1-6} alkoxy:

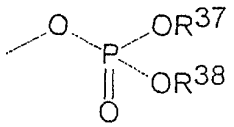

(i)

;


(ii)

;


(iii)


(iv)

; and

wherein

R^{33} represents

C_{1-6} alkyl which may be substituted by C_{1-6} alkoxy optionally substituted by C_{1-6} alkoxy, phenyl optionally substituted by C_{1-6} alkoxy, amino, or nitro, or a saturated or unsaturated five- to seven-membered heterocyclic ring optionally substituted by C_{1-6} alkoxy, amino, or nitro,

phenyl which may be substituted by C_{1-6} alkoxy, amino, or nitro, or

a saturated or unsaturated five- to seven-membered heterocyclic ring which may be substituted by C_{1-6} alkoxy, amino, or nitro, or

R^{33} may form C_{1-4} alkylene together with R^{31} or R^{32},

R^{34} represents

C_{1-16} alkyl which may be substituted by a halogen atom, carboxyl, phenyl optionally substituted by C_{1-6} alkoxy, amino, or nitro, or a saturated or unsaturated five- to seven-membered heterocyclic ring optionally substituted by C_{1-6} alkoxy, amino, or nitro,

phenyl which may be substituted by C_{1-6} alkoxy, amino, or nitro, or

a saturated or unsaturated five- to seven-membered heterocyclic ring which may be substituted by C_{1-6} alkoxy, amino, or nitro,

R^{35} and R^{36}, which may be the same or different, represent a hydrogen atom or C_{1-6} alkyl which may be substituted by amino optionally substituted by C_{1-4} alkyl or

R^{35} and R^{36} may form a saturated or unsaturated five- to seven-membered heterocyclic ring together with a nitrogen atom to which they are attached, and

R^{37} and R^{38}, which may be the same or different,

represent C_{1-6} alkyl.

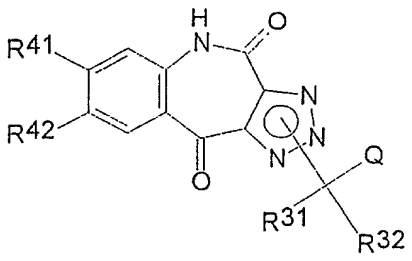
2. A compound according to claim 1, wherein R^1 represents a hydrogen atom and R^2, R^3, R^4, and R^5 represent a hydrogen atom or (g) C_{1-12} alkoxy.

3. A compound according to claim 1, wherein R^1, R^2, and R^5 represent a hydrogen atom and R^3 and R^4 represent a hydrogen atom or (g) C_{1-12} alkoxy.

4. A compound according to claim 1, wherein R^1, R^2, R^4, and R^5 represent a hydrogen atom and R^3 represents (g) C_{1-12} alkoxy.

5. A compound according to claim 1, wherein R^1, R^2, R^3, and R^5 represent a hydrogen atom and R^4 represents (g) C_{1-12} alkoxy.

6. A compound represented by formula (Ia) or a pharmacologically acceptable salt or solvate thereof:



(Ia)

wherein R^{41} and R^{42}, which may be the same or different, represent a hydrogen atom, optionally protected hydroxyl, C_{1-6} alkoxy which may be substituted by a halogen atom, or C_{1-6} alkyl which may

be substituted by a halogen atom and R^{31}, R^{32}, and Q are as defined in claim 1.

7. A compound according to claim 6, wherein R^{41} and R^{42} represent C_{1-6} alkoxy and Q represents group (i).

8. 2-(1-isopropoxycarbonyloxy-2-methylpropyl)-7,8-dimethoxy-4(5H),10-dioxo-2H-1,2,3-triazolo[4,5-c][1]benzazepine,

2-(1-(1,3-diethoxy-2-propoxycarbonyloxy)-2-methylpropyl)-7,8-dimethoxy-4(5H),10-dioxo-2H-1,2,3-triazolo[4,5-c][1]benzazepine,

2-(1-(1,3-diethoxy-2-propoxycarbonyloxy)-2-methylpropyl)-8-isopropoxy-7-methoxy-4(5H),10-dioxo-2H-1,2,3-triazolo[4,5-c][1]benzazepine, or

8-isopropoxy-2-(1-isopropoxycarbonyloxy-2-methylpropyl)-7-methoxy-4(5H),10-dioxo-2H-1,2,3-triazolo[4,5-c][1]benzazepine, or a salt or solvate thereof.

9. A pharmaceutical composition comprising the compound according to any one of claims 1 to 8 or a pharmacologically acceptable salt or solvate thereof.

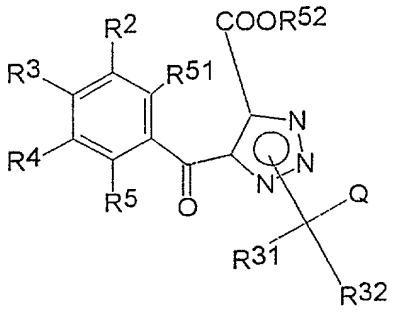
10. A pharmaceutical composition according to claim 9 for use in the treatment of allergic diseases.

11. A method for the treatment of an allergic disease, comprising administering to mammals the compound according to any one of claims 1 to 8 or a

pharmacologically acceptable salt or solvate thereof together with a pharmaceutically acceptable carrier.

12. Use of the compound according to any one of claims 1 to 8 or a pharmacologically acceptable salt or solvate thereof for preparing a therapeutic agent for allergic diseases.

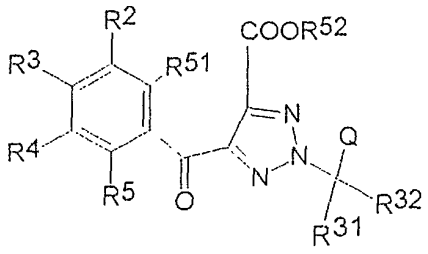
13. A compound represented by formula (II) or a salt or solvate thereof:



(II)

wherein R^{51} represents nitro or amino, R^{52} represents a hydrogen atom or a protective group for carboxyl, and Q, R^2 to R^5, R^{31}, and R^{32} are as defined in claim 1.

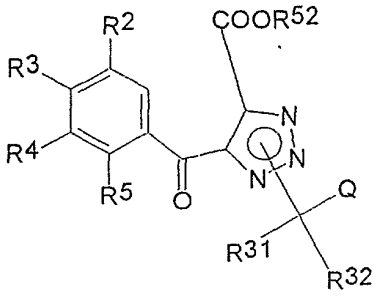
14. A compound represented by formula (II') or a salt or solvate thereof:



(II')

wherein Q, R^2 to R^5, R^{31}, R^{32}, R^{51}, and R^{52} are as defined in claims 1 and 13.

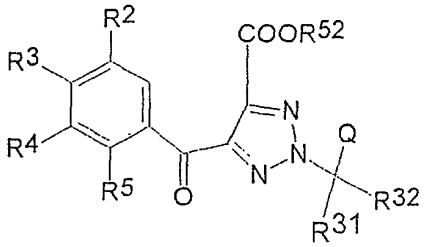
15. A compound represented by formula (VI) or a salt or solvate thereof:



(VI)

wherein Q, R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13.

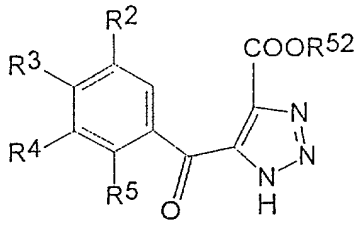
16. A compound represented by formula (VI') or a salt or solvate thereof:



(VI')

wherein Q, R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13.

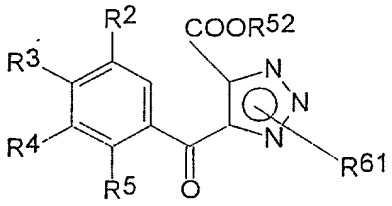
17. A compound represented by formula (VII) or a salt or solvate thereof:



(VII)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13.

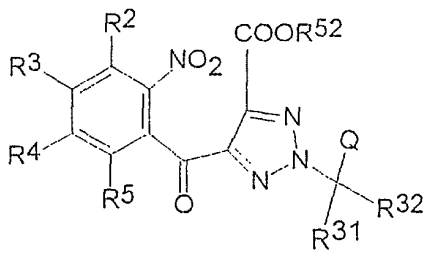
18. A compound represented by formula (VIII) or a salt or solvate thereof:



(VIII)

wherein R^{61} represents a protective group for triazole and R^2 to R^5 and R^{52} are as defined in claims 1 and 13.

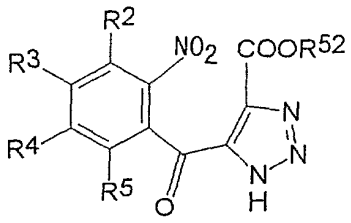
19. A process for preparing a compound represented by formula (IIa')



(IIa')

wherein Q represents group (i) as defined in claim 1 and R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13, which comprises the steps of:

(1) reacting a compound represented by formula (V)



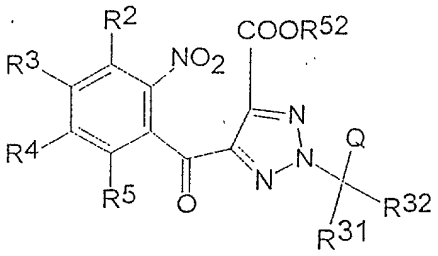
(V)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,
with a compound represented by $R^{31}R^{32}C=O$ wherein R^{31} and R^{32} are as defined above in claim 1;

(2) reacting the compound prepared in step (1) with a compound represented by $R^{71}-C(=O)-R^{72}$ wherein R^{71} and R^{72} each independently represent a chlorine atom, 4-nitrophenyl, or 1-imidazolyl; and

(3) reacting the compound prepared in step (2) with a compound represented by $R^{33}OH$ wherein R^{33} is as defined in claim 1.

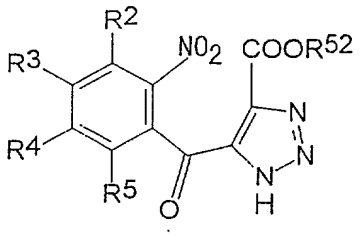
20. A process for preparing a compound represented by formula (IIa')



(IIa')

wherein Q represents the group (i) as defined in claim 1 and R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13, which comprises the steps of:

(1) reacting a compound represented by formula (V)

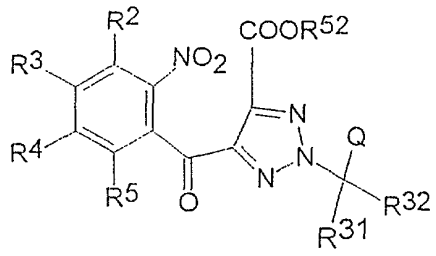


(V)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,
with a compound represented by $R^{31}R^{32}C=O$ wherein R^{31} and R^{32} are as defined in claim 1; and

(2) reacting the compound prepared in step (1) with a compound represented by $HalCOOR^{33}$ wherein Hal represents a halogen atom and R^{33} is as defined in claim 1, in the presence of an alkali metal carbonate and an alkali metal iodide.

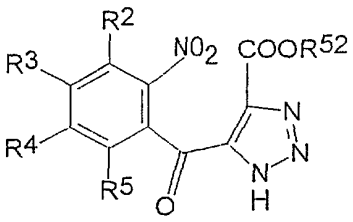
21. A process for preparing a compound represented by formula (IIa')



(II a')

wherein Q represents group (i) as defined in claim 1 and R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13, which comprises the step of

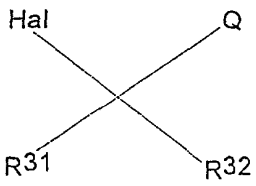
reacting a compound represented by formula (V)



(V)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,

with a compound represented by formula (IV)

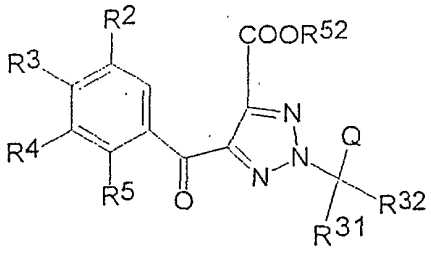


(IV)

wherein Hal represents a halogen atom, Q represents the group (i) as defined in claim 1, and R^{31} and R^{32} are as defined above, in the presence of an inorganic base and an alkali metal iodide.

22. A process for producing a compound

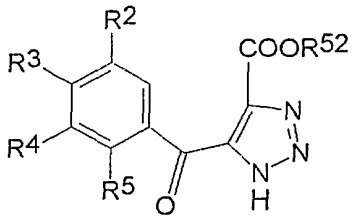
represented by formula (VI')



(VI')

wherein Q represents the group (i) as defined in claim 1, R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13, which comprises the steps of:

(1) reacting a compound represented by formula (VII)



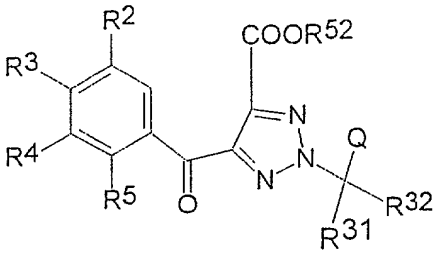
(VII)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13, with a compound represented by $R^{31}R^{32}C=O$ wherein R^{31} and R^{32} are as defined in claim 1;

(2) reacting the compound prepared in step (1) with a compound represented by $R^{71}-C(=O)-R^{72}$ wherein R^{71} and R^{72} each independently represent a chlorine atom, 4-nitrophenyl, or 1-imidazolyl; and

(3) reacting the compound prepared in step (2) with a compound represented by $R^{33}OH$ wherein R^{33} is as defined in claim 1.

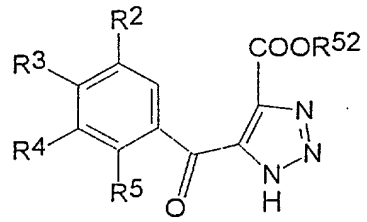
23. A process for preparing a compound represented by formula (VI')



(VI')

wherein Q represents group (i) as defined in claim 1, R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13, which comprises the steps of:

(1) reacting a compound represented by formula (VII)

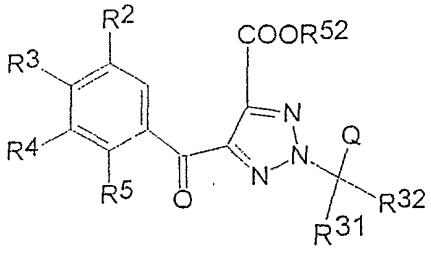


(VII)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13, with a compound represented by $R^{31}R^{32}C=O$ wherein R^{31} and R^{32} are as defined in claim 1; and

(2) reacting the compound prepared in step (1) with a compound represented by $HalCOOR^{33}$ wherein Hal represents a halogen atom and R^{33} is as defined in claim 1, in the presence of an alkali metal carbonate and an alkali metal iodide.

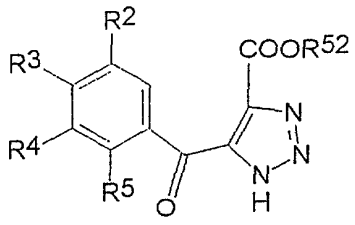
24. A process for producing a compound represented by formula (VI')



(VI')

wherein Q represents group (i) as defined in claim 1, R^2 to R^5, R^{31}, R^{32}, and R^{52} are as defined in claims 1 and 13, which comprises the step of

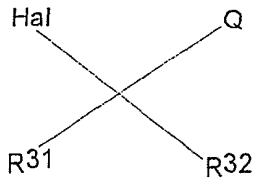
reacting a compound represented by formula (VII)



(VII)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,

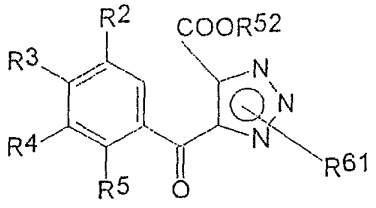
with a compound represented by formula (IV)



(IV)

wherein Hal represents a halogen atom, Q represents the group (i) as defined in claim 1, and R^{31} and R^{32} are as defined above, in the presence of an inorganic base and an alkali metal iodide.

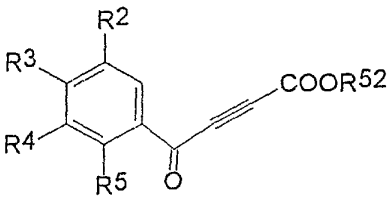
25. A process for preparing a compound represented by formula (VIII)



(VIII)

wherein R^2 to R^5, R^{52}, and R^{61} are as defined in claims 1, 13, and 18, which comprises the step of

(a) reacting a compound represented by formula (IX)



(IX)

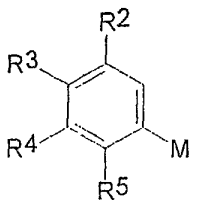
wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,

with a compound represented by formula (X)

$R^{61}-N_3$ (X)

wherein R^{61} is as defined in claim 18, or

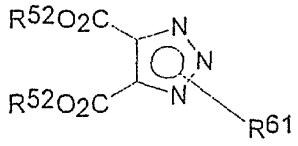
(b) reacting a compound represented by formula (XII)



(XII)

wherein M represents lithium, magnesium chloride, magnesium bromide, magnesium iodide, zinc bromide, zinc iodide, cadmium bromide, iodide cadmium, or copper and R^2 to R^5 are as defined in claim 1,

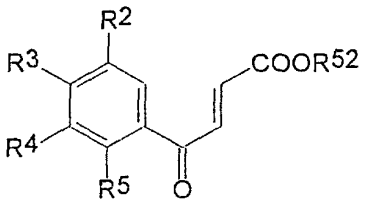
with a compound represented by formula (XIII)



(XIII)

wherein R^{52} and R^{61} are as defined in claims 13 and 18.

26. A process according to claim 25, which further comprises the step of, prior to the reaction of the compound represented by formula (IX) with the compound represented by formula (X) in step (a), dehydrogenating a compound represented by formula (XI)

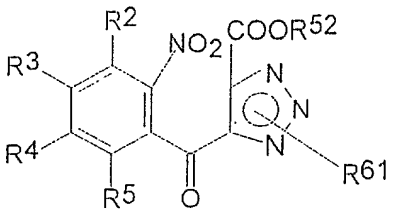


(XI)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,

to produce the compound represented by formula (IX).

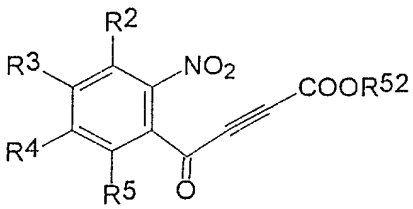
27. A process for producing a compound represented by formula (XV)



(XV)

wherein R^2 to R^5, R^{52}, and R^{61} are as defined in claims 1, 13 and 18, which comprises the step of

reacting a compound represented by formula (XVI)



(XVI)

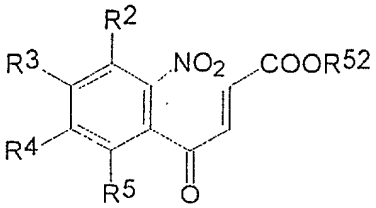
wherein R^2 to R^5, and R^{52} are as defined in claims 1 and 13,

with a compound represented by formula (X)

$R^{61}-N_3$ (X)

wherein R^{61} is as defined in claim 18.

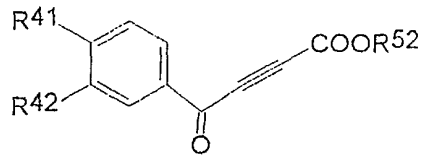
28. A process according to claim 27, which further comprises the step of, prior to the reaction of the compound represented by formula (XVI) with the compound represented by formula (X), a compound represented by formula (XVII)



(XVII)

wherein R^2 to R^5 and R^{52} are as defined in claims 1 and 13,
is dehydrogenated to produce the compound represented by formula (XVI).

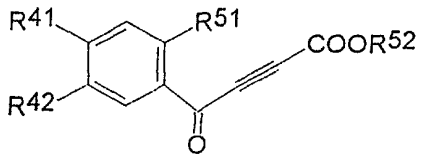
29. A compound represented by formula (IXa) or a salt or solvate thereof



(IXa)

wherein R^{41}, R^{42}, and R^{52} are as defined above in claims 6 and 13, provided that R^{41} and/or R^{42} do not represent a hydrogen atom.

30. A compound represented by formula (XVIa) or a salt or solvate thereof



(XVIa)

wherein R^{41}, R^{42}, R^{51}, and R^{52} are as defined in claims 6 and 13.